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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/888,009	06/22/2001	Tatsuya Yoshikawa	13298-004001	8488

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EXAMINER

STRICKLAND, JONAS N

ART UNIT	PAPER NUMBER
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1754

DATE MAILED: 10/10/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Applicati n No.	Applicant(s)	
	09/888,009	YOSHIKAWA, TATSUYA	
	Examiner	Art Unit	
	Jonas N. Strickland	1754	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 July 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. This Detailed Action is in response to the amendment filed 7/25/03 as Paper No.
6. Claims 1-18 are currently pending. Claims 1-3, 12, and 16 have been amended. Claim 18 is a newly added claim.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-12 and 16-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kato et al. (EP 0365308 A2) in view of Tamura et al. (US Patent 5,041,272) and Hayasaka et al. (US 5,312,608).

Kato et al. discloses an exhaust gas purifying catalyst wherein the catalyst comprises Co supported by Zr oxide mixed with a zeolite (see abstract). Kato et al. continues to disclose wherein the two components are mixed and the mixing is preferred to be a physical mixing. The catalyst composition may be slurried and coated onto a ceramic honeycomb (p. 3, lines 41-44). Kato et al. continues to disclose wherein the Co/Zr is preferably in the range of 20/80 to 1/99 and that the first and second components are in the range of 5/95 to 50/50 (p. 3, lines 27-38). The zeolite is a hydrogen type mordenite (p. 3, lines 29-30). The zeolite may be modified with Ca (p. 3,

line 30). The catalyst disclosed by Kato et al. is capable of purifying nitrogen oxides from various engines, including diesel engines (see abstract).

While Kato et al. teaches wherein the zeolite may be comprised of a proton zeolite, Tamura et al. teaches a method for removing nitrogen oxides from exhaust gases by contacting the catalyst with a hydrogenated zeolite, which is impregnated with one or more kinds of metals. The zeolite is comprised of a zeolite of mordenite type, as well as ZSM-5 type (see abstract).

Furthermore, Hayasaka et al. continues to teach wherein a catalyst for purifying exhaust gases is comprised of at least gallium and a zeolite (see abstract). Hayasaka et al. continues to teach that there is no particular restriction on the kind of zeolite and wherein the zeolite may be a ZSM-5 zeolite (col. 3, lines 38-49).

Therefore, it would have been obvious to one of ordinary skill in the art to modify the teachings of Kato et al. based on the teachings of Tamura et al. and Hayasaka et al., by having a catalyst which is comprised of a proton zeolite for the purification of an exhaust gas, because Tamura et al. teaches a method for removing nitrogen oxides from exhaust gases by contacting the catalyst with a hydrogenated zeolite, which is impregnated with one or more kinds of metals and Hayasaka et al. continues to teach that there is no particular restriction on the kind of zeolite and wherein the zeolite may be a ZSM-5 zeolite for a catalyst for purifying exhaust gases. Such modification would have been obvious to one of ordinary skill in the art, because one of ordinary skill in the art would have expected a process for purifying exhaust gas as taught by Tamura et al.

Art Unit: 1754

and Hayasaka et al using a zeolite to be similarly useful and applicable to a process for purifying exhaust gas using a zeolite as taught by Kato et al.

4. Claims 13-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kato et al. (EP 0365308 A2) in view of Tamura et al. (US Patent 5,041,272) and Hayasaka et al. (US 5,312,608) as applied to claims 1-12 and 16-18 above, and further in view of Montreuil et al. (US Patent 5,238,672).

Applicant claims with respect to claims 13-15, wherein the first component further contains at least one element. The teachings of Kato et al., Tamura et al., and Hayasaka et al. have been discussed with respect to claims 1-12 and 16-18. However, Kato et al. does not discuss wherein the first component further contains at least one element.

However, Montreuil et al. teaches a method for the purification of lean-burn engine exhaust gas, which includes a dual-phase zeolite having a transition metal-containing zeolite phase and a transition metal-containing oxide phase. The transition metal-containing oxide phase is comprised of the oxide zirconia and transition metals, such as manganese, copper, cobalt, iron, calcium, and mixtures thereof (col. 2, lines 14-46). Montreuil et al. continues to teach wherein the transition metal (copper) is present in an amount between 0.1-20% by weight (col. 3, lines 3-11).

Therefore, it would have been obvious to one of ordinary skill in the art to modify the teachings of Kato et al., Tamura et al., and Hayasaka et al. based on the teachings of Montreuil, by having an element, such as iron and calcium with a zirconia/manganese or cobalt composite, since Montreuil et al. teaches a zeolite component and a

zirconia/manganese or cobalt component, which may include a mixture of iron, as well as calcium. Such modification would have been obvious to one of ordinary skill in the art, because one of ordinary skill in the art would have expected the zeolite and zirconia/ manganese or cobalt component catalytic mixture used for treating exhaust gases as taught by Montreuil et al., to be similarly useful and applicable to the teachings of Kato et al., Tamura et al., and Hayasaka et al. which teaches an exhaust gas purifying catalyst wherein the catalyst comprises Co supported by Zr oxide mixed with a zeolite. Hayasaka et al. continues to teach that there is no particular restriction on the kind of zeolite and wherein the zeolite may be a ZSM-5 zeolite (col. 3, lines 38-49).

5. Applicant's arguments, see amendment, filed 7/25/03, with respect to the rejection(s) of claim(s) 1-17 under 35 U.S.C. 102(b) and 35 U.S.C. 103(a) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Kato et al. (EP 0365308 A2) in view of Tamura et al. (US Patent 5,041,272) and Hayasaka et al. (US 5,312,608) under 35 U.S.C. 103 (a) over claims 1-12 and 16-18, as well as claims 13-15 under 35 U.S.C. 103(a) under Kato et al. (EP 0365308 A2) in view of Tamura et al. (US Patent 5,041,272) and Hayasaka et al. (US 5,312,608) further in view of Montreuil et al. (US Patent 5,328,672).

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.


7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jonas N. Strickland whose telephone number is 703-306-5692. The examiner can normally be reached on M-TH, 7:30-5:00, off 1st Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stanley Silverman can be reached on 703-308-3837. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-0661.



Jonas N. Strickland
October 3, 2003



STANLEY S. SILVERMAN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1700